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TRANSLATION

CULTIVATION OF BRUCELLA ON SEMI-LIQUID AGAR

By

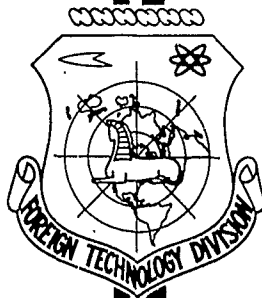
V. K. Amitrov

FOREIGN TECHNOLOGY DIVISION

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UNEDITED ROUGH DRAFT TRANSLATION

CULTIVATION OF BRUCELLA ON SEMI-LIQUID AGAR

By: V. K. Amitrov

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PREPARED BY:

TRANSLATION SERVICES BRANCH
FOREIGN TECHNOLOGY DIVISION
WP-AFB, OHIO.

CULTIVATION OF BRUCELLA ON SEMI-LIQUID AGAR

V. K. Amitrov

We investigate aborted fetuses of animals arriving at the laboratory for brucellosis, vibriosis, and trichomoniasis. Cultures from the contents of the fetal stomach for the investigation are made on Voloskov's medium (one or two test tubes) for trichomoniasis, in a semi-liquid agar according to the recipe of the Leningrad Scientific Research Veterinarian Institute (three test tubes) for vibriosis, and on dextrose MPE, MPA, MPPA, and potato agar for brucellosis (six to ten test tubes each). The test tubes with the cultures for vibriosis are placed in the dryer with carbon dioxide and those for brucellosis are filled with paraffin and set in a thermostat.

On microscopic examination of smears made from the contents of a fetal stomach (delivered on November 23, 1961) and stained by Kozlovskiy's and Gram's methods, we detected minute red bacilli. There was no growth on November 25 in the cultures on solid dextrose media from the same material, whereas on the semi-liquid agar slight cloudiness at the surface of the medium was observed in all test tubes. Minute bacilli were seen in smears made of this culture and stained with Ziehl's carbolfuchsin diluted with distilled water 1 : 5 (for

vibriosis).

Microbial growth in the form of small dew-drop colonies were observed on November 30 and December 1 in five of the ten test tubes with dextrose media; growths appeared later in the other five test tubes. Cloudiness in the upper third of the medium was noticeable on the semi-liquid agar at this time in all test tubes.

A microscopic investigation of smears from the cultures of all media revealed minute immovable bacilli, which on staining by Kozlovskiy's and Gram's method displayed a red color. Therefore, brucellae were established on the basis of the cultural and tinctorial properties. A smear made from an isolated culture on solid media was checked by the agglutination reaction with a known positive brucellosis serum and a positive result was obtained.

To determine the type, the isolated strain of brucellae was subcultured by the usual method on nutrient media with thiomine, fuchsin, and methyl violet. Brucellae grew on media only with fuchsin and methyl violet. Consequently, the isolated strain was Br. abortus bovis.

It was noted that the semi-liquid agar used for cultivating vibrios was a more favorable nutrient medium for growth of brucellae than the special dextrose media. Growth of brucellae on this medium was observed already two days after inoculation and only after seven or eight days on the special solid media. Upon subculturing the isolated brucellosis strain from the semi-liquid agar and solid media to the same number of test tubes with the same media, growth of the brucellae was always noted earlier on the semi-liquid agar than on the dextrose MPA and MPPA, and only after several passages (after more than a month) did the brucellae grow almost at the same rate on all media.

After reinoculating the culture to a colored series with Andrade's indicator, we observed the change in the media for three to

four weeks and established that as a result of acid production, coloring occurred after ten to twelve days on media with galactose and arabinose.

Therefore, *Br. abortus bovis* isolated from the aborted fetuses grows more rapidly on semi-liquid agar during the first subculturations (growth is demonstrated after one-three days) than on solid dextrose media (after seven-eight days).

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